Courses

DEMOG 5 Fundamentals of Population Science 3 Units
Terms offered: Summer 2019 Second 6 Week Session, Summer 2018 Second 6 Week Session, Fall 2011
This course provides an accessible introduction to the social science of demography. The course is organized around cases in which population issues raise policy or ethical dilemmas (example: China’s one child policy). Through these cases, students will learn how demographers use models and data to acquire knowledge about population. Throughout the course, students will also learn to read, interpret, evaluate, and produce tabular and graphical representations of population data.

DEMOG 88 Immigration: What do the data tell us? 2 Units
Terms offered: Fall 2019, Fall 2018, Fall 2017
This course will cover the small but important part of the rich history of human migration that deals with the population of the United States—focusing on the 20th and 21st Centuries. We will use the tools of DS8 to answer specific questions that relate to the themes of this course:
1. Why do people migrate?
2. Is immigration good or bad for receiving (and sending) countries?
3. How do immigrants adapt and how do societies change in response?
In addition to scientific questions, this course will also address the demographic and political history of immigration in the US—an understanding of which is crucial for understanding both the broad contours of US history and the particular situation in which we find ourselves today.

Objectives & Outcomes
Student Learning Outcomes: This course will enhance the experience of DS8 by challenging students to use the tools of DS8 to address current questions with real data. By accessing and using much larger and messier datasets than are used in the main course, students will gain technical skills as well as confidence in their ability to use data to answer questions.

Rules & Requirements
Prerequisites: Prerequisites and Restrictions (if any): Corequisite or Prerequisite: Foundations of Data Science (COMPSCI C8 / INFO C8 / STAT C8). This course is a Data Science connector course and is meant to be taken concurrent with or after COMPSCI C8 / INFO C8 / STAT C8. Students may take more than one Data Science connector course if they wish, concurrent with or after having taken the C8 course.

Hours & Format
Fall and/or spring: 15 weeks - 1-2 hours of lecture, 0-1 hours of discussion, and 0-1 hours of laboratory per week
Summer:
6 weeks - 7.5-7.5 hours of lecture and 0-2.5 hours of discussion per week
8 weeks - 6-6 hours of lecture and 0-2 hours of discussion per week
10 weeks - 4.5-4.5 hours of lecture and 0-1.5 hours of discussion per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).
Instructor: Carl Mason

Inmigration: What do the data tell us?: Read Less [-]
DEMOG 98 Directed Group Study 1 - 4 Units
Terms offered: Fall 2017, Spring 2017, Fall 2016
Undergraduate research by small groups.
Directed Group Study: Read More [+]

Rules & Requirements
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 1-3 hours of tutorial per week

Additional Details
Subject/Course Level: Demography/Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

Directed Group Study: Read Less [-]

DEMOG 110 Introduction to Population Analysis 3 Units
Terms offered: Fall 2020, Fall 2019, Fall 2018
Measures and methods of Demography. Life tables, fertility and nuptiality measures, age pyramids, population projection, measures of fertility control.

Introduction to Population Analysis: Read More [+]

Hours & Format
Fall and/or spring: 15 weeks - 3-3 hours of lecture and 0-1 hours of discussion per week

Summer:
6 weeks - 7.5-7.5 hours of lecture and 0-2.5 hours of discussion per week
8 weeks - 6-6 hours of lecture and 0-2 hours of discussion per week
10 weeks - 4.5-4.5 hours of lecture and 0-1.5 hours of discussion per week

Additional Details
Subject/Course Level: Demography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Wachter

Introduction to Population Analysis: Read Less [-]

DEMOG C126 Sex, Death, and Data 4 Units
Terms offered: Fall 2020, Fall 2019, Fall 2018
Introduction to population issues and the field of demography, with emphasis on historical patterns of population growth and change during the industrial era. Topics covered include the demographic transition, resource issues, economic development, the environment, population control, family planning, birth control, family and gender, aging, intergenerational transfers, and international migration.

Sex, Death, and Data: Read More [+]

Rules & Requirements
Prerequisites: 1 or 3 or 3AC or consent of instructor

Hours & Format
Fall and/or spring: 15 weeks - 3-3 hours of lecture and 0-2 hours of discussion per week

Additional Details
Subject/Course Level: Demography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Also listed as: SOCIOL C126

Instructor: Wachter

The American Immigrant Experience: Read Less [-]

DEMOG 145AC The American Immigrant Experience 4 Units
Terms offered: Spring 2015, Spring 2014, Spring 2013
The history of the United States is the history of migration. The course covers the evolution of the American population from about 20,000 BC with the goal of understanding the interdependent roles of history and demography. As an American cultures class, special attention is given to the experiences of 18th- and 19th-century African and European immigrants and 20th- and 21st-century Asian and Latin American immigrants. Two substantial laboratory assignments; facility with a spreadsheet program is assumed.

The American Immigrant Experience: Read More [+]

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Mason

Also listed as: HISTORY C139B

The American Immigrant Experience: Read Less [-]
DEMOG 160 Special Topics in Demography 3 Units
Terms offered: Spring 2020, Fall 2018, Fall 2017
Special topics in demography. Topics may include the demography of specific world regions, race and ethnicity, population and policy, and population and environment and similar specialized or new topics in the field of demography will be covered.
Special Topics in Demography: Read More [+]

Rules & Requirements
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.

Special Topics in Demography: Read Less [-]

DEMOG 161 Population Apocalypse in Film and Science 3 Units
Terms offered: Fall 2015, Spring 2015
Despite our astonishing demographic success as a species, humans are haunted by the idea of apocalyptic demise. This course explores scientific and cultural narratives of population catastrophe particularly as presented in film. Noah’s flood; nuclear annihilation; overpopulation; and climate change all raise the question: Does human nature carry within it the seeds of our inevitable destruction? In this course, we will grapple with both the science and the art in which this question is embedded.
Population Apocalypse in Film and Science: Read More [+]

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.

Instructors: Mason, Goldstein
Population Apocalypse in Film and Science: Read Less [-]

DEMOG C164 Impact of Government Policies on Poor Children and Families 4 Units
Terms offered: Spring 2007
Examination of the impact of policies of state intervention and public benefit programs on poor children and families. Introduction to child and family policy, and study of specific issue areas, such as income transfer programs, housing, health care, and child abuse.
Impact of Government Policies on Poor Children and Families: Read More [+]

Rules & Requirements
Credit Restrictions: This course may be applied to the Demography major.

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.

Instructor: Mauldon
Also listed as: PUB POL C164

Impact of Government Policies on Poor Children and Families: Read Less [-]

DEMOG C165 Family and Household in Comparative Perspective 3 Units
Terms offered: Spring 2012, Fall 2008, Spring 2005
How are families and households organized around the world? Which aspects of household and family vary, and which are constant? What are the relationships between household and family on the one hand and the political, economic, or broad social patterns on the other? This course examines all of these questions, taking historical and contemporary examples from Africa, Asia, Europe, and the Americas.
Family and Household in Comparative Perspective: Read More [+]

Rules & Requirements
Prerequisites: Sociology 1, 3, 3AC or consent of instructor

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Also listed as: SOCIOL C184

Family and Household in Comparative Perspective: Read Less [-]
DEMOG C175 Economic Demography 4 Units
Terms offered: Spring 2020, Spring 2019, Spring 2018
A general introduction to economic demography, addressing the following kinds of questions: What are the economic consequences of immigration to the U.S.? Will industrial nations be able to afford the health and pension costs of the aging populations? How has the size of the baby boom affected its economic well being? Why has fertility been high in Third World countries? In industrial countries, why is marriage postponed, divorce high, fertility so low, and extramarital fertility rising? What are the economic and environmental consequences of rapid population growth?
Economic Demography: Read More [+]

Rules & Requirements
Prerequisites: Economics 1 or 2

Hours & Format
Fall and/or spring: 15 weeks - 3-3 hours of lecture and 0-1 hours of discussion per week
Summer:
6 weeks - 7.5-7.5 hours of lecture and 0-2.5 hours of discussion per week
8 weeks - 6-6 hours of lecture and 0-2 hours of discussion per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Lee
Formerly known as: Demography C175, Economics C175
Also listed as: ECON C175
Economic Demography: Read Less [-]

DEMOG 180 Social Networks 4 Units
Terms offered: Fall 2020, Summer 2019 Second 6 Week Session, Spring 2019
The science of social networks focuses on measuring, modeling, and understanding the different ways that people are connected to one another. We will use a broad toolkit of theories and methods drawn from the social, natural, and mathematical sciences to learn what a social network is, to understand how to work with social network data, and to illustrate some of the ways that social networks can be useful in theory and in practice. We will see that network ideas are powerful enough to be used everywhere from UNAIDS, where network models help epidemiologists prevent the spread of HIV, to Silicon Valley, where data scientists use network ideas to build products that enable people all across the globe to connect with one another.
Social Networks: Read More [+]

Rules & Requirements
Prerequisites: Suggested: Introduction to Statistics (Computer Science/Information/Statistics C8 or "Data 8"), Pre-calculus (Mathematics 32), Python, or consent of instructor

Hours & Format
Fall and/or spring: 15 weeks - 3-3 hours of lecture and 0-1 hours of discussion per week
Summer:
6 weeks - 7.5-7.5 hours of lecture and 0-2.5 hours of discussion per week
8 weeks - 6-6 hours of lecture and 0-2 hours of discussion per week
10 weeks - 4.5-4.5 hours of lecture and 0-1.5 hours of discussion per week

Additional Details
Subject/Course Level: Demography/Undergraduate
Grading/Final exam status: Letter grade. Final exam required.
Instructor: Feehan
Social Networks: Read Less [-]
**DEMOG 198 Directed Group Study 1 - 4 Units**
Terms offered: Fall 2020, Fall 2019, Spring 2019
Undergraduate research by small groups. Enrollment is restricted by regulations governing 198 courses.
Directed Group Study: Read More [+]

**Rules & Requirements**
- **Prerequisites:** 60 units; good academic standing
- **Repeat rules:** Course may be repeated for credit without restriction.

**Hours & Format**
- **Fall and/or spring:** 15 weeks - 1-3 hours of directed group study per week
- **Summer:** 8 weeks - 1.5-7.5 hours of directed group study per week

**Additional Details**
- **Subject/Course Level:** Demography/Undergraduate
- **Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

Directed Group Study: Read Less [-]

**DEMOG 199 Supervised Independent Study 1 - 4 Units**
Terms offered: Fall 2020, Fall 2019, Summer 2019
Supervised independent study and research.
Supervised Independent Study: Read More [+]

**Rules & Requirements**
- **Prerequisites:** Consent of instructor
- **Repeat rules:** Course may be repeated for credit without restriction.

**Hours & Format**
- **Fall and/or spring:** 15 weeks - 1-3 hours of independent study per week
- **Summer:** 8 weeks - 1-3 hours of independent study per week

**Additional Details**
- **Subject/Course Level:** Demography/Undergraduate
- **Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

Supervised Independent Study: Read Less [-]

**DEMOG 200 Fundamentals of Population Thought 4 Units**
Terms offered: Fall 2018, Fall 2015, Fall 1997
This course offers an intensive introduction to the history of population thought in Europe and the United States through the close reading and contextualization of selected classic texts, including Graunt, Malthus, and Quetelet.
Required of graduate students in the M.A. or Ph.D. program in Demography.
Fundamentals of Population Thought: Read More [+]

**Rules & Requirements**
- **Prerequisites:** Consent of instructor

**Hours & Format**
- **Fall and/or spring:** 15 weeks - 3 hours of lecture per week

**Additional Details**
- **Subject/Course Level:** Demography/Graduate
- **Grading:** Letter grade.
- **Instructor:** Johnson-Hanks

Fundamentals of Population Thought: Read Less [-]

**DEMOG 210 Demographic Methods: Rates and Structures 4 Units**
Terms offered: Fall 2019, Fall 2018, Fall 2017
Demographic Methods: Rates and Structures: Read More [+]

**Hours & Format**
- **Fall and/or spring:** 15 weeks - 3 hours of lecture per week

**Additional Details**
- **Subject/Course Level:** Demography/Graduate
- **Grading:** Letter grade.
- **Instructor:** Wachter

Demographic Methods: Rates and Structures: Read Less [-]
DEMOG 211 Advanced Demographic Analysis 4 Units
Terms offered: Spring 2014, Spring 2013, Spring 2012
This course is designed to provide an overview of quantitative techniques commonly used in demography, sociology, economics, and other social sciences. Methods are described in both words and formulas, and students are encouraged to learn to move freely between verbal and mathematical representations of data.
Advanced Demographic Analysis: Read More [+]

Rules & Requirements
Prerequisites: 210, Population Studies 110, or consent of instructor

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Wilmoth

Advanced Demographic Analysis: Read Less [-]

DEMOG 213 Practical Computer Applications for Demographic Analysis 2 Units
Terms offered: Fall 2019, Fall 2018, Fall 2016
An introductory course for first year Demography graduate students in the use of the Demography laboratory. Covers Unix based tools for manipulating computer programs and data files, and the R, SPlus, and SAS statistical packages. The course introduces the proportional hazard model and methods of estimating it. The final project for this course is use of the 1995 Current Population Survey (fertility supplement) to compute Total Fertility Rates for the U.S.
Practical Computer Applications for Demographic Analysis: Read More [+]

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of demonstration per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Offered for satisfactory/unsatisfactory grade only.
Instructor: Mason

Practical Computer Applications for Demographic Analysis: Read Less [-]

DEMOG 215 Current Research Topics in Demography 2 Units
Terms offered: Fall 2010, Spring 2009, Spring 2008
The goals of this course are 1) to familiarize graduate students with active research projects in Demography and 2) to improve skills in R and Stata. Topics covered include demographic micro-simulation with SOCSIM, the Human Mortality Database, stochastic simulation/forecasting, GIS for Demographers, and mortality forecasting. Two-thirds of class time will be spent in the computer laboratory. Students will present results.
Current Research Topics in Demography: Read More [+]

Rules & Requirements
Prerequisites: 213

Hours & Format
Fall and/or spring: 15 weeks - 1 hour of lecture and 2 hours of laboratory per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Offered for satisfactory/unsatisfactory grade only.

Current Research Topics in Demography: Read Less [-]

DEMOG 220 Human Fertility 4 Units
Terms offered: Spring 2018, Spring 2013, Fall 2011
This course offers a critical, graduate-level introduction to the social science of reproduction, drawing especially on models and theories from demography, sociology, and anthropology. Among the topics are parity specific control and the calculus of conscious choice, below-replacement fertility, and the political economy of stratified reproduction.
Human Fertility: Read More [+]

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Johnson-Hanks

Human Fertility: Read Less [-]
DEMOG 230 Human Mortality 4 Units
Terms offered: Spring 2015, Spring 2011, Spring 2009
Measurement of mortality by age and cause. Traditional, transitional, and modern mortality patterns in European and non-European areas. Current trends and differentials by age, sex, race, occupation and marital status. Consequences of mortality declines for fertility change and development.

Rules & Requirements
Prerequisites: 210 or consent of instructor

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Wilmoth

DEMOG C236 Aging: Economic and Demographic Aspects 2 Units
Course considers demographic and economic aspects of population aging.

Rules & Requirements
Prerequisites: Consent of instructor
Repeat rules: Course may be repeated for credit when topic changes

Hours & Format
Fall and/or spring: 7.5 weeks - 2 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Lee

Also listed as: ECON C275B

Aging: Economic and Demographic Aspects: Read Less [-]

DEMOG 240 Human Migration 2 Units
Terms offered: Spring 2013, Spring 2011, Spring 2000
Human populations analyzed from the stand point of their spatial distribution and movement. Special attention to rural-urban migration, metropolitan structure, inter-regional movement, and demographic aspects of land-use, the collection and analysis of emigration and immigration data and statistics, migration policies. Human Migration: Read More [+]

Rules & Requirements

Hours & Format
Fall and/or spring: 7.5 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Lee

Also listed as: ECON C275A

Economic Demography: Read Less [-]

DEMOG 260 Special Topics in Demography Seminar 1 - 4 Units
Terms offered: Spring 2020, Fall 2019, Spring 2018
Special topics in demography, such as anthropological and evolutionary approaches, kinship and family structure, race and ethnicity, and similar specialized or new topics in the field of demography will be covered. Seminar will be offered according to student demand.

Rules & Requirements
Prerequisites: Consent of instructor
Repeat rules: Course may be repeated for credit when topic changes

Hours & Format
Fall and/or spring:
6 weeks - 2.5-9.5 hours of seminar per week
8 weeks - 2-7 hours of seminar per week
10 weeks - 1.5-6 hours of seminar per week
15 weeks - 1-4 hours of seminar per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Wilmoth

DEMOG C275A Economic Demography 3 Units
Terms offered: Spring 2019, Spring 2015, Spring 2014
Economic consequences of demographic change in developing and developed countries including capital formation, labor markets, and intergenerational transfers. Economic determinants of fertility, mortality and migration.

Rules & Requirements

Hours & Format
Fall and/or spring: 15 weeks - 2 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Lee

Also listed as: ECON C275A

Economic Demography: Read Less [-]
DEMOG C280 Social Networks 4 Units
Terms offered: Fall 2020, Spring 2019
This course provides a broad introduction to the empirical and theoretical study of social networks. We will cover classic and contemporary studies, beginning with fundamental definitions and models, and then moving through a range of topics, including models of network formation and structure (homophily, foci, communities); dynamic processes on networks (contagion, influence, and disease models); collaborative networks; personal networks; online networks; and network sampling and data collection. The course material is intended to be of interest to students from a wide range of disciplinary backgrounds, including demography, sociology, statistics, computer science, and related fields.

Social Networks: Read More [+]

Rules & Requirements
Credit Restrictions: Students who have taken DEMOG 260-001: SOCIAL NETWORKS in spring 2017 or DEMOG 260-001: SOCIAL NETWORKS in spring 2018 for credit may not receive credit for DEMOG C280 or SOCIOL C273N.

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Instructor: Feehan
Also listed as: SOCIOL C273N
Social Networks: Read Less [-]

DEMOG 296 Advanced Research Techniques 4 Units
Terms offered: Fall 2018, Fall 2017, Fall 2016
Problems in data acquisition, analysis, and presentation of technical demographic research. Required of graduate students in the Ph.D. program in Demography.

Advanced Research Techniques: Read More [+]

Rules & Requirements
Prerequisites: 295 and consent of instructor
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 3 hours of seminar per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Advanced Research Techniques: Read Less [-]

DEMOG 298 Directed Reading 1 - 12 Units
Terms offered: Fall 2020, Spring 2020, Fall 2019
Intended to provide directed reading in subject matter not covered in available course offerings.

Directed Reading: Read More [+]

Rules & Requirements
Prerequisites: Consent of instructor
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 1-12 hours of independent study per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Directed Reading: Read Less [-]

DEMOG 299 Directed Research 1 - 12 Units
Terms offered: Fall 2020, Summer 2020 8 Week Session, Spring 2020
Intended to provide supervision in the preparation of an original research paper or dissertation.

Directed Research: Read More [+]

Rules & Requirements
Prerequisites: Consent of instructor
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 1-12 hours of independent study per week
Summer: 8 weeks - 1.5-22.5 hours of independent study per week

Additional Details
Subject/Course Level: Demography/Graduate
Grading: Letter grade.
Directed Research: Read Less [-]
DEMOG 301 GSI Training 1 - 6 Units
Terms offered: Fall 2020, Fall 2019, Fall 2018
Course credit for experience gained in academic teaching through employment as a graduate student instructor.
GSI Training: Read More [+]
Rules & Requirements
Prerequisites: Appointment as a graduate student instructor in department

Hours & Format
Fall and/or spring: 15 weeks - 1-6 hours of seminar per week
Summer: 8 weeks - 1-6 hours of seminar per week

Additional Details
Subject/Course Level: Demography/Professional course for teachers or prospective teachers
Grading: Offered for satisfactory/unsatisfactory grade only.

DEMOG 601 Individual Study 1 - 8 Units
Terms offered: Fall 2020, Fall 2019, Fall 2018
Individual study, in consultation with the graduate adviser, intended for qualified students to do necessary work to prepare themselves for language examinations, and the comprehensive examination.
Individual Study: Read More [+]
Rules & Requirements
Prerequisites: Graduate standing
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 1-8 hours of independent study per week

Additional Details
Subject/Course Level: Demography/Graduate examination preparation
Grading: Offered for satisfactory/unsatisfactory grade only.

DEMOG 602 Individual Study for Doctoral Students 1 - 8 Units
Terms offered: Fall 2020, Spring 2020, Fall 2019
Individual study in consultation with the major field adviser, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required of candidates for the Ph.D.
Individual Study for Doctoral Students: Read More [+]
Rules & Requirements
Prerequisites: For qualified graduate students
Repeat rules: Course may be repeated for credit without restriction.

Hours & Format
Fall and/or spring: 15 weeks - 1-8 hours of independent study per week

Additional Details
Subject/Course Level: Demography/Graduate examination preparation
Grading: Offered for satisfactory/unsatisfactory grade only.

Individual Study for Doctoral Students: Read Less [-]